Western New York

Regional Information Center

IT Leaders Briefing:

Mobile Learning Devices/Tablet Integration

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**WNYRIC IT Leaders Brief: Tablet Integration Strategies 2011**

**Introduction:**

The conversations regarding the safety and effectiveness of allowing Mobile Learning Devices/ tablets into our schools has been active this year, not only in K-12 settings, but also in business. For the purpose of this revised document ONLY MLD/tablets are being considered:

* iOS 4.x (Apple iPad 2+)
* Android 3.x – tablets only

We can observe the business models thus far and with the help of Gartner and InfoTech as well as other sources state plainly that attempts by businesses to ban, discourage and control the use of these consumer driven devices have been unenforceable. The more the IT Departments push the organization standards the more employees will go outside to find the tools they want which opens up security holes.

**Issues for Consideration:**

Researchers have provided examples of how the use tablets by staff in **business** (in conjunction with their laptops) increased their time online related to business by 20%. This has again recently been updated and indicates that a business who utilizes tablets in ways where integrating technology was previously cumbersome or not practical has been a good business model. The caveat to this statement is that those businesses that saw this **increase in production ensured that the applications necessary for productivity were easily accessible from the tablet device** (ie: sales force utilizing video in presentations, access to data systems when working with group, etc).

The administrative leadership staff in **K-12** have opportunities when utilizing Apple iOS and Android 3.x :

* Access APPR applications to input data or review
* Access to student assessment data
* Access to student information
* Portal applications

The business case referencing streaming of video demonstrating highly effective instructional techniques or mobile video during instruction is also being mentioned as rationale for integration of these devices. The caveats mentioned above in regards to businesses are a necessity; **the necessary applications must be easily accessible.**

In the **K-12 Instructional** arena the **Erate pilot** report conducted by Watkins Glen and GST BOCES in 2011 clearly indicates that utilizing Smartphones (mobile learning devices) increased student achievement in NYS assessments in ELA and Math. The classroom teachers in the pilot stated that there were significant gains in mastery- level achievement largely attributed to the dramatic increase in the amount of time students were on task and digital access to course content and online applications. There is more information in the full document which is available upon request.

New to the research from Gartner revolves around higher education, yet is applicable to K-12. The tablets provide advantages for students from traditional laptop carts or labs:

* they are mobile
* weigh less
* have much more efficient power consumption
* have a flat (consistent) configuration
* small in size and provide e-reader capabilities.
* These devices also **have access to vast stores of content**, which can hold thousands of digital learning objects and increase the number of ways to engage students in instruction.
* The concerns revolve around the lack of a physical keyboard; specific concerns of the iPad include the lack of support of Flash (for common website video display) and the lack of a USB port.

**Potential for Modifications in Context and Collaboration** –these devices are very different and the use is changing the way we work:

* The **user** controls **who they want to collaborate with** and the system figures out the best way for the user to do that. The system also decides the context as to how you receive the information.
* Mobile collaboration client (browser) has changed on these devices – multiple data sources in a single view with multiple layers, so not a single URL. HTML5 also allow ubiquitous access to web resources.

**Management of Resources:**

**The Measurement of Great Tablets** (criteria) –

* Dual core processors
* Wifi version of the device costs less than $500.00
* Instant On feature
* Self contained – 16 inch X 10.1 inch tablet screens with thinner bezel (7 inch is too small)
* Intuitive user interface
* Video camera integrated
* > 30,000 applications are available.

**Adapted Industry Conclusions for WNYRIC Customers:**

**WNYRIC Support** and **Vision**

The WNYRIC encourages the use of device-neutral applications for the classroom and school district staff and administrators which can access necessary applications and data securely and affordably. The MLD/tablet has **certain shortcomings** which need to be communicated effectively with solution scenarios to our customers. It is **not** believed that MLD/tablets are an **effective replacement** of a laptop or desktop at this time, although the next six months will produce additional enterprise solutions.

* **Governance and Risk** - Acceptable Use Policies, ensure auditors find this utilization as acceptable, insurance compliance; legal compliance should be in place and verify **insurance, audit compliance and legal** compliance –
  + Policy Service can help provide the following:
    - **Updated Acceptable Use Policies** – can include the following language as an example *-(Policy Services can help) This policy is intended to establish general guidelines for the acceptable student use of the DCS and also to give students and parents/guardians notice that student use of the DCS will provide student access to external computer networks not controlled by the School District. The District cannot screen or review all of the available content or materials on these external computer networks. Thus some of the available content or materials on these external networks may be deemed unsuitable for student use or access by parents/guardians.*

*Despite the existence of District policy, regulations and guidelines, it is virtually impossible to completely prevent access to content or material that may be considered inappropriate for students. Students may have the ability to access such content or material from their home, other locations off school premises and/or with a student’s own personal technology or electronic device on school grounds or at school events. Parents and guardians must be willing to establish boundaries and standards for the appropriate and acceptable use of technology and communicate these boundaries and standards to their children. The appropriate/acceptable use standards outlined in this policy apply to student use of technology via the DCS or any other electronic media or communications, including by means of a student's own personal technology or electronic device on school grounds or at school events.*

* **Content filtering solutions** for K-12– Lightspeed filters Android 3.x and iOS 4.1 devices. The WNYRIC converted all districts who are in our Content Filtering Service to Lightspeed during the summer of 2011. This product can filter the web via any wireless connection and any cell signal for data from any location.
* **The following will be managed through the yet to be approved Mobile Device Management solution for** the devices **wifi and/or cell access – thus far** MaaS360 and Absolute, MobileIron and IBM TEM are being **investigated, piloted and are negotiating pricing**. Expect a solution in place in December 2011.
  + **Individual Management-**  Lightspeed can control application installs and deletions on Android 3.0+ devices, although on an individual basis.
  + **Enterprise Asset Management** – devices and hardware components and the ability to control access. Through Mobile Device Management solutions -
  + **Access and roaming control** – re: security (specifics stated earlier in document) – encryption – minimum OS on tablets is requires (Apple iOS 4 and Android 3.1 minimum).
  + A device has to be **capable of being cleaned of content** (specific personal applications and specific business applications) **"over the air" (OTA),** should the device be reported as lost or stolen (removal of the certificate and keys). Force the user to employ a **complex password** consisting of a combination of uppercase and lowercase letters, numbers and special characters, with the ability for periodic changes.
* **Bandwidth** – a wireless site survey should be conducted in prior to the introduction of devices on wireless networks. Ekahau will soon be in production to aid this process.
* **BYOD solutions and Access to Legacy Windows Applications and H and S Drives** - WebNetwork by Stoneware to access student and staff to the necessary educational resources with authentication – Currently works on iPad2 (iOS 4) but still in design for Android 3.1.
  + Also signed document is necessary – currently utilized under the Traveler section of My E1B.

**The Specific WNYRIC Supported Solutions through COSERs:**

**CSLO** -iPad , Samsung Galaxy, Ace transformer tablets are listed as approved devices through CSLO with approval of Michelle Okal-Frink. CSLO is only approving these devices with wifi only and for use in the district and may not be taken home by students. A review and verification and meeting with Michelle Okal-Frink is necessary prior to project approval.

**Standards Committee** – Approved MLD/tablets with iOS 4.0 and Android 3.1+ are listed as approved through Management Services. These devices can be taken out of the district if content filtering is in place utilizing Lightspeed. A review and verification and meeting with Jill Holbrook is necessary prior to project approval.

**Potential Service Recommendations and Concerns for WNYRIC:**

Mobile Device Management Service on Mobile Learning Devices (MLD)/Tablets would include all components necessary for Mobile Management PLUS the Content Filtering of Mobile Clients (estimate $2.00 to $5.00/ device depending on the time intensity necessary to install).

The other areas which are necessary in the Mobile Device Management – which have to be analyzed to ensure adequate revenue:

* Asset Management/ inventory
* Application compatibility – traditional Windows applications
* LDAP or ADFS2 (ActiveSynch) integration
* Policy discussions
* Planning and implementation of segregation of educational/business vs. personal applications
* Over The Air Wipe capability
* Application distribution
* Password Security
* Application Security and Jailbreak management and Remediation of devices as necessary
* Management Server administration – Private WNYRIC Cloud or Public Cloud
* Internal Wireless Audit – additional cost
* Staff Development for One to One Instructional Strategies